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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,461	11/21/2003	Kjell-Tore Smith	115700	8061
29078	7590	09/28/2007	EXAMINER	
CHRISTIAN D. ABEL ONSAGERS AS POSTBOKS 6963 ST. OLAVS PLASS NORWAY, N-0130 NORWAY			GELLNER, JEFFREY L	
			ART UNIT	PAPER NUMBER
			3643	
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			09/28/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/717,461

Applicant(s)

SMITH ET AL.

Examiner

Jeffrey L. Gellner

Art Unit

3643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 7, 17, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newman et al. (Munitions Tech. Symp., 1997; 3<sup>rd</sup> document on 2<sup>nd</sup> page of Applicants' SB-80A received 11 Feb. 2004) in view of Rothenstein et al. (US 4,163,681).

As to claim 1, Newman et al. disclose a composition of an explosive with RDX Type II at 88-96% (Table 1 of 2<sup>nd</sup> page of article), a poly acrylic elastomer (Table 1 of 2<sup>nd</sup> of article), and a plasticizer (Table 1 of 2<sup>nd</sup> of article), wherein the elastomer is HyTemp 454 (Table 1 of 2<sup>nd</sup> page of article of Newman et al.) and the plasticizer is DOA (Table 1 of 2<sup>nd</sup> page of article of Newman et al.). Not disclosed is the RDX being Type I and the RDX having a portion of coarse crystals with avg. size 50 to 250 microns and a portion of finer crystals with an avg. size of 2 to 30 microns. Rothenstein et al, however, the use of RDX crystals with a portion having a size of 130 microns (col. 5 lines 35-40, col. 7 lines 15-19). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition of Newman et al. by using an RDX blend as disclosed by Rothenstein et al. so as to control such characteristics as burn rate by controlling surface area of the fuel/oxidizer.

Art Unit: 3643

As to claims 2, 7, 23, and 24, Newman et al. disclose a composition of an explosive with RDX Type II at 88-96% (Table 1 of 2<sup>nd</sup> page of article) which would contain HMX at up to 14%, a poly acrylic elastomer (Table 1 of 2<sup>nd</sup> of article), and a plasticizer (Table 1 of 2<sup>nd</sup> of article), wherein the elastomer is HyTemp 454 (Table 1 of 2<sup>nd</sup> page of article of Newman et al.) and the plasticizer is DOA (Table 1 of 2<sup>nd</sup> page of article of Newman et al.). Not disclosed is the RDX having a portion of coarse crystals with avg. size 50 to 250 microns and a portion of finer crystals with an avg. size of 2 to 30 microns. Rothenstein et al, however, the use of RDX crystals with a portion having a size of 130 microns (col. 5 lines 35-40, col. 7 lines 15-19). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the composition of Newman et al. by using an RDX blend as disclosed by Rothenstein et al. so as to control such characteristics as burn rate by controlling surface area of the fuel/oxidizer.

As to claim 3 depending upon claims 1 or 2, Newman et al. as modified by Rothenstein et al. further disclose the explosive at 90-94% (Table 1 of 2<sup>nd</sup> page of article of Newman et al.).

As to claim 5 depending upon claims 1 or 2, the limitations of claims 1 or 2 are disclosed as described above. Not disclosed is the RDX coarse portion being 25 to 75%. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition of Newman et al. as modified by Rothenstein et al. by having the coarse portion being 25 to 75% so as to control such characteristics as burn rate by controlling surface area of the fuel/oxidizer.

As to claim 17, Newman et al. as modified by Rothenstein et al. further disclose the explosive at 91-93% (from "94-2%" of Table 1 of 2<sup>nd</sup> page of article of Newman et al.).

Art Unit: 3643

As to claims 21 and 22, the limitations of claim 5 are disclosed as described above. Not disclosed is the RDX coarse portion being 35 to 65% or 44 to 56%. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition of Newman et al. as modified by Rothenstein et al. by having the coarse portion being 35 to 65% or 44 to 56% so as to control such characteristics as burn rate by controlling surface area of the fuel/oxidizer.

Claims 4, 8-16, 18-20, and 25-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newman et al. (Munitions Tech. Symp., 1997; 3<sup>rd</sup> document on 2<sup>nd</sup> page of Applicants' SB-80A received 11 Feb. 2004) in view of Rothenstein et al. (US 4,163,681) in further view of Svensson et al. (US 4,638,065).

As to claim 4 depending upon claims 1 or 2, the limitations of claims 1 or 2 are disclosed as described above. Newman et al. as modified by Rothenstein et al. further disclose the RDX coarse portion with an avg. size of 60 to 170 microns ("130 microns" of col. 5 lines 35-40, col. 7 lines 15-19). Not disclosed is the fine portion having an avg. size of 5 to 20 microns. Svensson et al., however, discloses RDX with an avg. size of 5 microns (from "5-50" of col. 4 line 1 and col. 4 lines 15-16). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition of Newman et al. as modified by Rothenstein et al. by using 5 micron RDX as disclosed by Svensson et al. so as to control such characteristics as burn rate by controlling surface area of the fuel/oxidizer.

As to claim 8, the limitations of claim 2 are disclosed as described above. Not disclosed is the fine portion having an avg. size of 2 to 30 microns. Svensson et al., however, discloses

Art Unit: 3643

RDX with an avg. size of 5 microns (from “5-50” of col. 4 line 1 and col. 4 lines 15-16). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition of Newman et al. as modified by Rothenstein et al. by using 5 micron RDX as disclosed by Svensson et al. so as to control such characteristics as burn rate by controlling surface area of the fuel/oxidizer.

As to claim 18, the limitations of claim 4 are disclosed as described above. Not disclosed is the coarse portion at 60 to 90 microns and the fine portion at 5 to 20 microns. Svensson et al., however, discloses RDX with an avg. size 60 to 90 microns (from col. 4 example 1 and lines 15-16) and of 5 microns (from “5-50” of col. 4 line 1 and col. 4 lines 15-16). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition of Newman et al. as modified by Rothenstein et al. by using RDX avg. sizes as disclosed by Svensson et al. so as to control such characteristics as burn rate by controlling surface area of the fuel/oxidizer.

As to claim 19, the limitations of claim 4 are disclosed as described above. Newman et al. as modified by Rothenstein et al. further disclose the RDX coarse portion with an avg. size of 60 to 170 microns (“130 microns” of col. 5 lines 35-40, col. 7 lines 15-19). Not disclosed is the fine portion having an avg. size of 12 to 18 microns. Svensson et al., however, discloses RDX with an avg. size of 10 microns (from col. 4 example 3 and col. 4 lines 15-16). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition of Newman et al. as modified by Rothenstein et al. by using RDX avg. sizes as disclosed by Svensson et al. so as to control such characteristics as burn rate by controlling surface area of the fuel/oxidizer.

Art Unit: 3643

As to claim 20, the limitations of claim 4 are disclosed as described above. Not disclosed is the coarse portion at 60 to 90 microns and the fine portion at 12 to 18 microns. Svensson et al., however, discloses RDX with an avg. size of 70 microns (from col. 4 example 1 and lines 15-16) and of 10 microns (col. 4 example 3 and col. 4 lines 15-16). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition of Newman et al. as modified by Rothenstein et al. by using RDX avg. sizes as disclosed by Svensson et al. so as to control such characteristics as burn rate by controlling surface area of the fuel/oxidizer.

As to claim 25, the limitations of claim 8 are disclosed as described above. Newman et al. as modified by Rothenstein and Svensson et al. further disclose HMX crystals from 5 to 20 microns (col. 4 example 3 of Svensson et al.) It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition of Newman et al. as modified by Rothenstein et al. and Svensson et al. by having the HMX crystals a particular avg. size so as to control such characteristics as burn rate by controlling surface area of the fuel/oxidizer.

As to claim 26, the limitations of claim 8 are disclosed as described above. Newman et al. as modified by Rothenstein and Svensson et al. further disclose HMX crystals from 8 to 14 microns (col. 4 example 3 of Svensson et al.) It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the composition of Newman et al. as modified by Rothenstein et al. and Svensson et al. by having the HMX crystals a particular avg. size so as to control such characteristics as burn rate by controlling surface area of the fuel/oxidizer.

As to claims 9-16 and 27-35, Newman et al. as modified by Rothenstein et al. and Svensson et al. disclose the explosive composition as described above. Svensson et al. further disclose an RDX fine portion at 12 to 18 microns ((from “5-50” of col. 4 line 1 and col. 4 lines 15-16). MPEP 2113 Product-by-Process claims state that “[i]f the product in the product-by-process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process.” Here, the explosive composition made in water-slurry process is obvious in light of Newman et al. as modified by Rothenstein et al. and Svensson et al. (as stated in the other rejections in the instant office action) since the explosive composition is not a patentable distinction.

### ***Response to Arguments***

Applicant's arguments filed 23 July 2007 have been fully considered but they are not persuasive. Applicants' arguments are: (1) no motivation to combine Newman et al. with Rothenstein et al. since Newman et al. teaches that nearly impossible to press PBXW-17 above 99% TMD (Remarks at middle of 1<sup>st</sup> page and 2<sup>nd</sup> page); and, (2) Examiner's reason to combine - control burn rate by controlling surface area - is not relevant to instant invention (Remarks middle of 1<sup>st</sup> page).

As to argument (1), Examiner considers there to be motivation to combine because Newman et al. states that for ammunition “particle size distribution must be chosen to ensure there is adequate chemical energy” (at 2<sup>nd</sup> page of text, 1<sup>st</sup> col.) and “binder type and concentration must be chosen to have a high density (usually greater than 97% of the theoretical



Art Unit: 3643

maximum density (TMD)” (at 2<sup>nd</sup> page of text, 1<sup>st</sup> col.). Hence, particle size was/is known to one of ordinary skill to be an important characteristic in exothermic composition. Rothenstein et al. disclose that RDX is known to have (or to make) the particle size that is claimed by Applicants. It would be obvious then to use the teaching of . Rothenstein et al. for a particle size for RDX in the composition of Newman et al. depending upon desired characteristics of the composition.

The Supreme Court in KRS states that “[u]nder the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed” (Slip opinion, no. 04-1350 at middle of page 16). Hence, Applicants’ motivation for invention is not dispositive.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Whelan et al. discloses in the prior art particle sizes for Types I and II of RDX.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

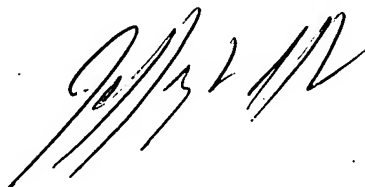
Art Unit: 3643

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey L. Gellner whose telephone number is 571.272.6887. The examiner can normally be reached on Monday-Friday, 8:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on 571.272.6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jeffrey L. Gellner  
Primary Examiner  
Art Unit 3643